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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CHOW, YUK

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/807,987	Applicant(s) HIRAKI ET AL.	
	Examiner YUK CHOW	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Subject matter in these claims: "Wherein at least one of an input image data of a maximum tone and an input data of a minimum tone is used only for the data correction and is not subject to the data correction in the image data processor," it's unclear that how an input image data is used for data correction, and yet is not subject to data correction in the image data processor.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the **"image data processor" in claim 1** must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1- 10 and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kumashiro (US Patent 5,870,503).

As to **claim 1**, Kumashiro discloses a liquid crystal display device configured to compare inputted image data and image data of a preceding frame and subject the inputted image data to data correction for improving response speed of liquid crystal based on a result of the comparison, comprising;

an image data processor (Fig. 1(80)) for correcting the inputted image data; and

a data driver for outputting the corrected data (Fig. 20(g1), binary output image) received from the image data processor corresponding to the input image data (Fig. 20(F1), 8-bit image data),

Wherein at least one of an input image data of a maximum tone and an input data of a minimum tone is used only for the data correction and is not subject to the data correction in the image data processor (See Fig. 41, filter 52 detects maximum and minimum values and generates a coefficient K3 for data correction. see Col. 20 lines 25-47), and

the data driver outputs a correction value (Fig. 41(P)) for correcting the input image data of the maximum tone and the input data of the minimum tone (see Col. 20 lines 25-47),

As to **claim 2**, Kumashiro discloses a liquid crystal display device according to claim 1,

wherein the data driver outputs the correction value (Fig. 41(P)) for correcting the input image data of the maximum tone and the input data of the minimum tone (see Col. 20 lines 25-47),

As to **claim 3**, Kumashiro discloses a liquid crystal display device according to claim 1,

wherein all tones corresponding to the input data that said data driver is capable of outputting are displayed by arbitrarily combining all the outputs of said data driver except the output corresponding to the input image data of the maximum tone and minimum tone. (Col. 11 lines 40-53)

As to **claim 4**, Kumashiro discloses a liquid crystal display device according to claim 3, further comprising

a table (Fig. 1(81)) in which the tones that said data driver is capable of outputting are shown so as to be related to the combinations of the outputs of said data driver except the output corresponding to the input image data of the maximum tone and minimum tone. (see Col. 6 lines 20-52)

As to **claim 5**, Kumashiro discloses a liquid crystal display device according to claim 3,

wherein an error diffusion method is applied to the combinations of the outputs of said data driver except the output corresponding to the input image data of the maximum tone and minimum tone. (see Fig. 1, f2 is combined with e' which is result of error diffusion unit 85)

As to **claim 6**, Kumashiro discloses a liquid crystal display device according to claim 1,

wherein correction value output by said data driver comprises at least one of an output corresponding to a higher luminance than a luminance of the maximum tone and an output corresponding to a lower luminance than a luminance of the minimum tone (see Fig. 41, $\text{Max}(a, b, \dots, x)$ and $\text{Min}(a, b, \dots, x)$).

As to **claim 7**, Kumashiro discloses a liquid crystal display device according to claim 6,

wherein as at least one of the output corresponding to the higher luminance than the luminance of the maximum tone (Fig. 48(high reference value) and the output

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corresponding to the lower luminance than the luminance of the minimum tone (Fig. 48(high reference value), a plurality of outputs corresponding to luminances different from each other are allowed to be outputted (Fig. 48(57), differential filter).

As to **claim 8**, Kumashiro discloses a data driver being for outputting, in addition to outputs corresponding to all tones designatable by inputted image data (Fig. 42(62)), at least one of an output corresponding to a higher luminance than a luminance of a maximum tone and an output corresponding to a lower luminance than a luminance of a minimum tone (Fig 41 (52)).

As to **claim 9**, Kumashiro discloses a liquid crystal display device configured to compare inputted image data and image data of a preceding frame and subject the inputted image data to data correction for improving response speed of liquid crystal based on a result of the comparison, comprising:

an image data processing part (Fig. 1(83)) for correcting the inputted image data;

an error diffusion processing part (Fig. 1(85)) configured to process the image data for generating a mean tone (Fig. 1(e')) between a first tone and a second tone,

wherein said image data processing part outputs a signal to prohibit said error diffusion part from generating the mean tone for image data that has undergone the data correction. (See Fig. 41, filter 52 detects maximum and minimum values and generates a coefficient K3 for data correction. see Col. 20 lines 25-47.)

As to **claim 10**, kumashiro discloses a liquid crystal display device configured to compare inputted image data and image data of a preceding frame and subject the

inputted image data to data correction for improving response speed of liquid crystal based on a result of the comparison, comprising

a backlight that is impulse-driven (it's well known to use impulse-driven technique such as PCM for backlight),

wherein a correction amount in the data correction is changed by a unit of at least one horizontal display line of a display part (see Fig. 20(Horizontal synchronization)).

Regarding **claims 12-14**, limitations within these claims are identical to **claims 1-3**, except they are the method claims. Therefore, same rejections apply to these claims.

6. Claim 11 is rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki et al (US 2002/0140652).

As to **claim 11**, Suzuki discloses a liquid crystal display device, configured to compare inputted image data and image data of a preceding frame and subject the inputted image data to data correction for improving response speed of liquid crystal based on a result of the comparison, a correction amount in the data correction being changed according to a temperature, comprising:

a temperature measuring part (Fig. 1(24)),

wherein a temperature measured in said temperature measuring part is corrected by a temperature correction amount that varies with time, during a period from a power supply time to a temperature stable time [0096,0097].

Response to Arguments

7. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUK CHOW whose telephone number is (571)270-1544. The examiner can normally be reached on 8-6 M-TH E.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571 272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/YUK CHOW/

Examiner, Art Unit 2629

/Amare Mengistu/

Supervisory Patent Examiner, Art Unit 2629